WHAT IS CLAIMED IS:

1. A system for managing an *in vivo* vehicle in a subject, comprising:

a. a magnet being physically associated with the vehicle;

b. an extracorporeal magnetic source for producing a magnetic field for being applied to said magnet, said extracorporeal magnetic source being located outside of the subject;

c. a detector for detecting a magnetic field from said magnet, said detector being located outside of the subject; and

d. a control module for receiving a magnetic field measurement from said detector and for managing the vehicle according to said magnetic field measurement.

2. The system of claim 1, wherein managing the vehicle includes at least one of maneuvering, rotating, locating, mobilizing, controlling, monitoring and activating at least one vehicle function.

3. The system of claim 1, wherein application of said magnetic field comprises application of a gradient of said magnetic field.

4. The system of claim 1, wherein said magnet includes an electromagnet.

5. The system of claim 4, wherein said extracorporeal magnetic source features a plurality of coils to measure at least one of a distance and a location of the vehicle, by measuring at least one time dependent change of said magnetic field resulting from movement of the vehicle.

6. The system of claim 1, wherein said magnet includes a soft magnet.

7. The system of claim 1, wherein said magnet includes a hard magnet.

8. The system of claim 1, wherein said magnet includes a ferromagnetic material.

9. The system of claim 1, wherein said magnet is a permanent magnet, comprising at least one material for producing a permanent magnet having permanent magnetization.

10. The system of claim 1, wherein said magnet is a permanent magnet made from at least one material being magnetized in a magnetic field.

11. The system of claim 10, wherein said permanent magnet is part of an outer surface of the vehicle.

12. The system of claim 11, wherein an entire exterior surface of the vehicle is said permanent magnet.

13. The system of claim 10, further comprising a connecting element for connecting said permanent magnet to the vehicle.

14. The system of claim 13, wherein said connecting element is used as an antenna to send and receive signals to and from the vehicle.

15. The system of claim 1, wherein the force and directional vectors between said magnet and said extracorporeal magnetic source are used to calculate a location of the vehicle.

16. The system of claim 1, wherein the vehicle's path inside the body is preplanned.

17. The system of claim 16, wherein the vehicle's preplanned path relies on the anatomical structure of the examined organ or examined area.

18. The system of claim 17, wherein the vehicle's path inside the body is controlled at least partially according to information received about a location of the vehicle.

19. The system of claim 18, wherein said information is received from at least one of a separate imaging system or diagnostic system.

20. The system of 19, wherein the vehicle's path inside the body is controlled at least partially according to information received directly from the vehicle.

21. The system of claim 1, further comprising a receiver for receiving at least one of a data input or a command, said receiving being located in the vehicle.

22. The system of claim 1, wherein activation of a function of the vehicle is triggered by a timer.

23. The system of claim 1, wherein activation of a function of the vehicle is triggered by a distance counter.

24. The system of claim 23, wherein said activation of said function of the vehicle is triggered by distance measurement according to the Doppler principal.

25. The system of claim 23, wherein said activation of said function of the vehicle is triggered by distance measurement performed by a laser Doppler.

26. The system of claim 1, wherein activation of a function of the vehicle is triggered, per time frame and/or anatomic position, by an element outside the subject.

27. The system of claim 1, wherein activation of a function of the vehicle is triggered by signals originating from at least one of said extracorporeal magnetic source and said magnetic field from the vehicle.

28. The system of claim 1, wherein activation of said function of the vehicle is triggered by a change of pH at the area where the vehicle is located.

29. The system of claim 1, wherein activation of said function of the vehicle is triggered by a change of at least one electrolyte concentration at the location where the vehicle is located.

30. The system of claim 1, wherein activation of said function of the vehicle is triggered by a change of pressure on the vehicle.

31. The system of claim 1, wherein the vehicle contains elements that perform histological tests.

32. The system of claim 1, wherein the vehicle contains an element for performing a local surgical procedure.

33. The system of claim 1, wherein a single Hall probe or an array of Hall probes measures the vehicle's location inside the subject.

34. The system of claim 1, wherein a pressure applied by or on the vehicle is measured by a pressure-measuring element, and a change in said magnetic force caused by said pressure is sensed by said detector.

35. The system of claim 34, wherein said pressure is also used to calculate an inclination angle of the vehicle.

36. The system of claim 1, wherein a single reed switch or an array of reed switches is used to determine a location of the vehicle.

37. The system of claim 1, wherein said detector and said extracorporeal magnetic source are assembled on a bandage that is attached to the subject.

38. The system of claim 1, wherein said detector indicates when the vehicle passes a predetermined location.

39. The system of claim 38, wherein said detector comprises at least one a reed switch for determining when the vehicle has passed said predetermined location.

40. The system of claim 38, wherein said detector comprises an array of reed switches for determining when the vehicle has passed said predetermined location.

41. The system of claim 38, wherein an indicator is used to indicate when the vehicle passes said predetermined location.

42. The system of claim 41, wherein said indicator is selected from the group consisting of an electromagnetic, electronic, optical and mechanical flip switch.

43. The system of claim 41, wherein said indicator is selected from the group consisting of an electromagnetic, electronic, optical and mechanical flag type indicator.

44. The system of claim 41, wherein said indicator is a LED or lamp.

45. The system of claim 1, wherein said magnet is at least partially composed of a powder of magnetic material.

46. The system of claim 1, wherein said vehicle further comprises one or more of an imaging element, a functioning element, a power source and a transmitting element.

47. A system for managing an *in vivo* vehicle in a subject, wherein managing includes at least determining a location of the vehicle in the subject, the system comprising:

a. a magnet being physically associated with the vehicle;

b. an extracorporeal magnetic source for producing a magnetic field for being applied to said magnet, said extracorporeal magnetic source being located outside of the subject; and

c. a detector for detecting a magnetic field from said magnet, said detector being located outside of the subject, such that a location of the vehicle is determined according to said magnetic field measurement.

48. A system for managing an *in vivo* vehicle in a subject, comprising:

a. a magnet being physically associated with the vehicle;

b. an extracorporeal magnetic source for producing a magnetic field for being applied to said magnet, said extracorporeal magnetic source being located outside of the subject;

c. a detector for detecting a magnetic field from said magnet, said detector being located outside of the subject; and

d. a control module for receiving a magnetic field measurement from said detector and for managing the vehicle according to said magnetic field measurement, wherein said managing is performed by modulating at least one of a strength and a direction of said magnetic field from said magnet.

49. The system of claim 48, wherein said control module modulates said magnetic field by inducing a plurality of changes in said magnetic field with specific characteristics over time.

50. The system of claim 49, wherein said extracorporeal magnetic source is an electromagnet and said magnetic field is an electromagnetic field, and said control module causes said extracorporeal magnetic source to produce at least one pulse in said electromagnetic field to induce said changes in said magnetic field.

51. A system for amplifying the force in an electromagnetic field used for controlling and managing an *in vivo* vehicle in a subject, comprising:

a. A permanent magnet being physically associated with the vehicle;
b. An extracorporeal magnetic source for producing a magnetic field for being applied to said magnet, said extracorporeal magnetic source being located outside of the subject, being comprised of a matrix of coils;
c. A detector for detecting a magnetic field from said magnet, said detector being located outside of the subject; and
d. A control module for receiving a magnetic field measurement from said detector and for managing the vehicle according to said magnetic field measurement.

52. The system of claim 51, wherein said coils in said matrix are capable of being activated and deactivated.

53. The system of claim 51, wherein said coils in said matrix are of small dimensions, such that the pixel size and the coil size are determined according to a discretization size..

54. The system of claim 51, wherein controlling and managing the vehicle includes moving the vehicle.

55. A system for amplifying the force in an electromagnetic field used for controlling and managing an *in vivo* vehicle in a subject, comprising:

a. A magnet being physically associated with the vehicle;
b. An extracorporeal magnetic source for producing a magnetic field for being applied to said magnet, said extracorporeal magnetic source being located outside of the subject, being comprised of a matrix of annular permanent magnets arranged on a grid;
c. A detector for detecting a magnetic field from said magnet, said detector being located outside of the subject; and
d. A control module for receiving a magnetic field measurement from said detector and for managing the vehicle according to said magnetic field measurement.

56. The system of claim 55, wherein said annular magnets comprise a cylindrical magnet.

57. The system of claim 55, wherein said annular magnets comprise a ring shaped magnet.

58. The system of claim 55, wherein said annular magnets comprise a polygonal magnet.

59. The system of claim 55, wherein said annular magnets comprise a polygonal ring magnet.

60. The system of claim 55 wherein said annular magnets are magnetized in the axial direction.

61. The system of claim 55, wherein the surface of said electromagnetic field is divided into regions.

62. The system of claim 56, wherein each said annular magnet has a magnetization in the opposite direction to that of its nearest neighbors.

63. The system of claim 55, wherein said annular magnet is attached to several coils.

64. The system of claim 63, wherein said coils are in pairs.

65. The system of claim 64, wherein said pairs of said coils are wound in opposite directions.

66. The system of claim 64, wherein said pairs of said coils are located at 90 degree angles around said annular magnet.

67. The system of claim 64, wherein each said pair of said coils is attached to a third coil, in order to break the symmetry in the system.

68. The system of claim 67, wherein said added coil is magnetized by a non axial force.

69. The system of claim 55, wherein said system further comprises several Hall effect probes.

70. The system of claim 69, wherein said Hall effect probes monitor the movement of said force amplifier with relation to said matrix of annular magnets.

71. The system of claim 69, wherein said Hall effect probes are used to change the current in said coils.

72. The system of claim 69, wherein said Hall effect probes measure the changes in the electromagnetic field.

73. The system of claim 69, wherein said Hall effect probes are used to count the number of pixels having field changes along the grid of permanent magnets, for determining the distance the vehicle moved and the current position of the vehicle.